

**AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims**

Claim 1 (Currently Amended): An apparatus for identifying a concentration of a urea of a urea solution, comprising:

a urea concentration identifying chamber for causing an identified urea solution introduced into a urea concentration identifying apparatus body to stay temporarily;

a urea concentration identifying sensor heater provided in the urea concentration identifying chamber; and

a liquid temperature sensor provided in the urea concentration identifying chamber apart from the urea concentration identifying sensor heater at a constant interval;

the urea concentration identifying sensor heater including a heater and an identifying liquid temperature sensor provided in the vicinity of the heater, and

the apparatus further comprising an identification control portion for applying a pulse voltage to the urea concentration identifying sensor heater for a predetermined time, heating the identified urea solution staying temporarily in the urea concentration identifying chamber by the heater and identifying the concentration of the urea with a voltage output difference V0 corresponding to a temperature difference between an initial temperature and a peak temperature in the identifying liquid temperature sensor,

wherein the heater and the identifying liquid temperature sensor in the urea concentration identifying sensor heater are constituted to come in contact with the identified urea solution through a fin, respectively.

Claim 2 (Original): The apparatus for identifying a concentration of a urea of a urea solution according to claim 1, wherein the voltage output difference V0 is equal to a voltage difference between an average initial voltage V1 obtained by sampling an initial voltage before application of the pulse voltage at a predetermined number of times and an average peak voltage V2 obtained by sampling a peak voltage after the application of the pulse voltage at a predetermined number of times, that is,

$$V0 = V2 - V1.$$

Claim 3 (Previously Presented): The apparatus for identifying a concentration of a urea of a urea solution according to claim 1, wherein the identification control portion identifies a concentration of a urea of a urea solution with the voltage output difference  $V_0$  obtained for the identified urea solution based on calibration curve data to be a correlation of a voltage output difference with a temperature for a predetermined reference urea solution prestored in the identification control portion.

Claim 4 (Previously Presented): The apparatus for identifying a concentration of a urea of a urea solution according to claim 1, wherein the identification control portion correlates a liquid type voltage output  $V_{out}$  for the voltage output difference  $V_0$  at a measuring temperature of the identified urea solution with an output voltage for a voltage output difference at a measuring temperature for a predetermined threshold reference urea solution and thus carries out a correction.

Claim 5 (Previously Presented): The apparatus for identifying a concentration of a urea of a urea solution according to claim 1, wherein the urea concentration identifying sensor heater is a laminated urea concentration identifying sensor heater in which a heater and an identifying liquid temperature sensor are laminated through an insulating layer.

Claim 6 (Currently Amended): An apparatus for identifying a concentration of a urea of a urea solution, comprising:

- a urea concentration identifying chamber for causing an identified urea solution introduced into a urea concentration identifying apparatus body to stay temporarily;

- a urea concentration identifying sensor heater provided in the urea concentration identifying chamber; and

- a liquid temperature sensor provided in the urea concentration identifying chamber apart from the urea concentration identifying sensor heater at a constant interval;

- the urea concentration identifying sensor heater including a heater and an identifying liquid temperature sensor provided in the vicinity of the heater, and

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an identification control portion for applying a pulse voltage to the urea concentration identifying sensor heater for a predetermined time, heating the identified urea solution staying temporarily in the urea concentration identifying chamber by the heater and identifying the concentration of the urea with a voltage output difference  $V_0$  corresponding to a temperature difference between an initial temperature and a peak temperature in the identifying liquid temperature sensor,

wherein the heater and the identifying liquid temperature sensor in the urea concentration identifying sensor heater are constituted to come in contact with the identified urea solution through a ~~metallie~~ fin, respectively.

Claim 7 (Currently Amended): An apparatus for identifying a concentration of a urea of a urea solution, comprising:

a urea concentration identifying chamber for causing an identified urea solution introduced into a urea concentration identifying apparatus body to stay temporarily;

a urea concentration identifying sensor heater provided in the urea concentration identifying chamber; and

a liquid temperature sensor provided in the urea concentration identifying chamber apart from the urea concentration identifying sensor heater at a constant interval;

the urea concentration identifying sensor heater including a heater and an identifying liquid temperature sensor provided in the vicinity of the heater, and

an identification control portion for applying a pulse voltage to the urea concentration identifying sensor heater for a predetermined time, heating the identified urea solution staying temporarily in the urea concentration identifying chamber by the heater and identifying the concentration of the urea with a voltage output difference  $V_0$  corresponding to a temperature difference between an initial temperature and a peak temperature in the identifying liquid temperature sensor,

wherein the liquid temperature sensor is constituted to come in contact with the identified urea solution through a ~~metallie~~ fin.

Claim 8 (Withdrawn): A method for identifying a concentration of a urea of a urea solution, comprising the steps of:

applying a pulse voltage for a predetermined time to a urea concentration identifying sensor heater including a heater and an identifying liquid temperature sensor provided in the vicinity of the heater;

heating an identified urea solution by the heater; and

identifying the concentration of the urea with a voltage output difference V0 corresponding to a temperature difference between an initial temperature and a peak temperature in the identifying liquid temperature sensor.

Claim 9 (Withdrawn): The method for identifying a concentration of a urea of a urea solution according to claim 8, wherein the voltage output difference V0 is equal to a voltage difference between an average initial voltage V1 obtained by sampling an initial voltage before application of the pulse voltage at a predetermined number of times and an average peak voltage V2 obtained by sampling a peak voltage after the application of the pulse voltage at a predetermined number of times, that is,

$$V0 = V2 - V1.$$

Claim 10 (Withdrawn): The method for identifying a concentration of a urea of a urea solution according to claim 8, wherein a concentration of a urea of a urea solution is identified with the voltage output difference V0 obtained for the identified urea solution based on calibration curve data to be a correlation of a voltage output difference with a temperature for a predetermined reference urea solution which is prestored.

Claim 11 (Withdrawn): The method for identifying a concentration of a urea of a urea solution according to claim 8, wherein a liquid type voltage output Vout for the voltage output difference V0 at a measuring temperature of the identified urea solution is correlated with an output voltage for a voltage output difference at a measuring temperature for a predetermined threshold reference urea solution and is thus corrected.

Claim 12 (Withdrawn): The method for identifying a concentration of a urea of a urea solution according to claim 8, wherein the urea concentration identifying sensor heater is a

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laminated urea concentration identifying sensor heater in which a heater and an identifying liquid temperature sensor are laminated through an insulating layer.

Claim 13 (Withdrawn): The method for identifying a concentration of a urea of a urea solution according to claim 8, wherein the heater and the identifying liquid temperature sensor in the urea concentration identifying sensor heater are constituted to come in contact with the identified urea solution through a metallic fin, respectively.

Claim 14 (Withdrawn): The method for identifying a concentration of a urea of a urea solution according to claim 8, wherein the liquid temperature sensor is constituted to come in contact with the identified urea solution through the metallic fin.

Claim 15 (Withdrawn): An apparatus for reducing an exhaust gas of a car, comprising:

a urea solution supplying mechanism for supplying a urea solution to an upstream side of a catalytic device,

wherein the urea solution supplying mechanism is constituted by a urea solution tank for storing the urea solution, a urea pump and a urea spraying device for spraying the urea solution fed from the urea pump to the upstream side of the catalytic device, and

the apparatus for identifying a concentration of a urea of a urea solution according to claim 1 is provided in the urea tank or on an upstream side or a downstream side of the urea pump.

Claim 16 (Withdrawn): A method for reducing an exhaust gas of a car, comprising the steps of:

supplying a urea solution to an upstream side of a catalytic device through a urea solution supplying mechanism constituted by a urea solution tank for storing the urea solution, a urea pump and a urea spraying device for spraying the urea solution fed from the urea pump onto the upstream side of the catalytic device, and

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identifying a concentration of a urea of the urea solution in the urea tank or on an upstream side or a downstream side of the urea pump by using the method for identifying a concentration of a urea of a urea solution according to claim 8.

Claim 17 (Previously Presented): The apparatus for identifying a concentration of a urea of a urea solution according to claim 2, wherein the identification control portion identifies a concentration of a urea of a urea solution with the voltage output difference  $V_0$  obtained for the identified urea solution based on calibration curve data to be a correlation of a voltage output difference with a temperature for a predetermined reference urea solution prestored in the identification control portion.

Claim 18 (Previously Presented): The apparatus for identifying a concentration of a urea of a urea solution according to claim 2, wherein the identification control portion correlates a liquid type voltage output  $V_{out}$  for the voltage output difference  $V_0$  at a measuring temperature of the identified urea solution with an output voltage for a voltage output difference at a measuring temperature for a predetermined threshold reference urea solution and thus carries out a correction.

Claim 19 (Previously Presented): The apparatus for identifying a concentration of a urea of a urea solution according to claim 3, wherein the identification control portion correlates a liquid type voltage output  $V_{out}$  for the voltage output difference  $V_0$  at a measuring temperature of the identified urea solution with an output voltage for a voltage output difference at a measuring temperature for a predetermined threshold reference urea solution and thus carries out a correction.

Claim 20 (Previously Presented): The apparatus for identifying a concentration of a urea of a urea solution according to claim 2, wherein the urea concentration identifying sensor heater is a laminated urea concentration identifying sensor heater in which a heater and an identifying liquid temperature sensor are laminated through an insulating layer.

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Claim 21 (Previously Presented): The apparatus for identifying a concentration of a urea of a urea solution according to claim 3, wherein the urea concentration identifying sensor heater is a laminated urea concentration identifying sensor heater in which a heater and an identifying liquid temperature sensor are laminated through an insulating layer.

Claim 22 (Previously Presented): The apparatus for identifying a concentration of a urea of a urea solution according to claim 4, wherein the urea concentration identifying sensor heater is a laminated urea concentration identifying sensor heater in which a heater and an identifying liquid temperature sensor are laminated through an insulating layer.

Claim 23 (Currently Amended): An apparatus for identifying a concentration of a urea of a urea solution, comprising:

a urea concentration identifying chamber for causing an identified urea solution introduced into a urea concentration identifying apparatus body to stay temporarily;

a urea concentration identifying sensor heater provided in the urea concentration identifying chamber; and

a liquid temperature sensor provided in the urea concentration identifying chamber apart from the urea concentration identifying sensor heater at a constant interval;

the urea concentration identifying sensor heater including a heater and an identifying liquid temperature sensor provided in the vicinity of the heater, and

an identification control portion for applying a pulse voltage to the urea concentration identifying sensor heater for a predetermined time, heating the identified urea solution staying temporarily in the urea concentration identifying chamber by the heater and identifying the concentration of the urea with a voltage output difference  $V_0$  corresponding to a temperature difference between an initial temperature and a peak temperature in the identifying liquid temperature sensor, wherein the voltage output difference  $V_0$  is equal to a voltage difference between an average initial voltage  $V_1$  obtained by sampling an initial voltage before application of the pulse voltage at a predetermined number of times and an average peak voltage  $V_2$  obtained by sampling a peak voltage after the application of the pulse voltage at a predetermined number of times, that is,

$$V_0 = V_2 - V_1,$$

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wherein the heater and the identifying liquid temperature sensor in the urea concentration identifying sensor heater are constituted to come in contact with the identified urea solution through a ~~metallie~~ fin, respectively.

Claim 24 (Currently Amended): An apparatus for identifying a concentration of a urea of a urea solution, comprising:

a urea concentration identifying chamber for causing an identified urea solution introduced into a urea concentration identifying apparatus body to stay temporarily;

a urea concentration identifying sensor heater provided in the urea concentration identifying chamber; and

a liquid temperature sensor provided in the urea concentration identifying chamber apart from the urea concentration identifying sensor heater at a constant interval;

the urea concentration identifying sensor heater including a heater and an identifying liquid temperature sensor provided in the vicinity of the heater, and

an identification control portion for applying a pulse voltage to the urea concentration identifying sensor heater for a predetermined time, heating the identified urea solution staying temporarily in the urea concentration identifying chamber by the heater and identifying the concentration of the urea with a voltage output difference V0 corresponding to a temperature difference between an initial temperature and a peak temperature in the identifying liquid temperature sensor, wherein the identification control portion identifies a concentration of a urea of a urea solution with the voltage output difference V0 obtained for the identified urea solution based on calibration curve data to be a correlation of a voltage output difference with a temperature for a predetermined reference urea solution prestored in the identification control portion,

wherein the heater and the identifying liquid temperature sensor in the urea concentration identifying sensor heater are constituted to come in contact with the identified urea solution through a ~~metallie~~ fin, respectively.

Claim 25 (Currently Amended): An apparatus for identifying a concentration of a urea of a urea solution, comprising:



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a urea concentration identifying chamber for causing an identified urea solution introduced into a urea concentration identifying apparatus body to stay temporarily;

a urea concentration identifying sensor heater provided in the urea concentration identifying chamber; and

a liquid temperature sensor provided in the urea concentration identifying chamber apart from the urea concentration identifying sensor heater at a constant interval;

the urea concentration identifying sensor heater including a heater and an identifying liquid temperature sensor provided in the vicinity of the heater, and

an identification control portion for applying a pulse voltage to the urea concentration identifying sensor heater for a predetermined time, heating the identified urea solution staying temporarily in the urea concentration identifying chamber by the heater and identifying the concentration of the urea with a voltage output difference  $V_0$  corresponding to a temperature difference between an initial temperature and a peak temperature in the identifying liquid temperature sensor, wherein the identification control portion correlates a liquid type voltage output  $V_{out}$  for the voltage output difference  $V_0$  at a measuring temperature of the identified urea solution with an output voltage for a voltage output difference at a measuring temperature for a predetermined threshold reference urea solution and thus carries out a correction,

wherein the heater and the identifying liquid temperature sensor in the urea concentration identifying sensor heater are constituted to come in contact with the identified urea solution through a ~~metallie~~ fin, respectively.

Claim 26 (Currently Amended): An apparatus for identifying a concentration of a urea of a urea solution, comprising:

a urea concentration identifying chamber for causing an identified urea solution introduced into a urea concentration identifying apparatus body to stay temporarily;

a urea concentration identifying sensor heater provided in the urea concentration identifying chamber; and

a liquid temperature sensor provided in the urea concentration identifying chamber apart from the urea concentration identifying sensor heater at a constant interval;

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the urea concentration identifying sensor heater including a heater and an identifying liquid temperature sensor provided in the vicinity of the heater, and

an identification control portion for applying a pulse voltage to the urea concentration identifying sensor heater for a predetermined time, heating the identified urea solution staying temporarily in the urea concentration identifying chamber by the heater and identifying the concentration of the urea with a voltage output difference V0 corresponding to a temperature difference between an initial temperature and a peak temperature in the identifying liquid temperature sensor,

wherein the urea concentration identifying sensor heater is a laminated urea concentration identifying sensor heater in which a heater and an identifying liquid temperature sensor are laminated through an insulating layer, and

wherein the heater and the identifying liquid temperature sensor in the urea concentration identifying sensor heater are constituted to come in contact with the identified urea solution through a ~~metallie~~ fin, respectively.

Claim 27 (Currently Amended): An apparatus for identifying a concentration of a urea of a urea solution, comprising:

a urea concentration identifying chamber for causing an identified urea solution introduced into a urea concentration identifying apparatus body to stay temporarily;

a urea concentration identifying sensor heater provided in the urea concentration identifying chamber; and

a liquid temperature sensor provided in the urea concentration identifying chamber apart from the urea concentration identifying sensor heater at a constant interval;

the urea concentration identifying sensor heater including a heater and an identifying liquid temperature sensor provided in the vicinity of the heater, and

an identification control portion for applying a pulse voltage to the urea concentration identifying sensor heater for a predetermined time, heating the identified urea solution staying temporarily in the urea concentration identifying chamber by the heater and identifying the concentration of the urea with a voltage output difference V0 corresponding to a temperature difference between an initial temperature and a peak temperature in the identifying liquid temperature sensor., wherein the voltage output difference V0 is equal to a voltage

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difference between an average initial voltage V1 obtained by sampling an initial voltage before application of the pulse voltage at a predetermined number of times and an average peak voltage V2 obtained by sampling a peak voltage after the application of the pulse voltage at a predetermined number of times, that is,

$$V0 = V2 - V1,$$

wherein the liquid temperature sensor is constituted to come in contact with the identified urea solution through a ~~metallie~~ fin.

Claim 28 (Currently Amended): An apparatus for identifying a concentration of a urea of a urea solution, comprising:

a urea concentration identifying chamber for causing an identified urea solution introduced into a urea concentration identifying apparatus body to stay temporarily;

a urea concentration identifying sensor heater provided in the urea concentration identifying chamber; and

a liquid temperature sensor provided in the urea concentration identifying chamber apart from the urea concentration identifying sensor heater at a constant interval;

the urea concentration identifying sensor heater including a heater and an identifying liquid temperature sensor provided in the vicinity of the heater, and

an identification control portion for applying a pulse voltage to the urea concentration identifying sensor heater for a predetermined time, heating the identified urea solution staying temporarily in the urea concentration identifying chamber by the heater and identifying the concentration of the urea with a voltage output difference V0 corresponding to a temperature difference between an initial temperature and a peak temperature in the identifying liquid temperature sensor, wherein the identification control portion identifies a concentration of a urea of a urea solution with the voltage output difference V0 obtained for the identified urea solution based on calibration curve data to be a correlation of a voltage output difference with a temperature for a predetermined reference urea solution prestored in the identification control portion, and

wherein the liquid temperature sensor is constituted to come in contact with the identified urea solution through a ~~metallie~~ fin.

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Claim 29 (Currently Amended): An apparatus for identifying a concentration of a urea of a urea solution, comprising:

a urea concentration identifying chamber for causing an identified urea solution introduced into a urea concentration identifying apparatus body to stay temporarily;

a urea concentration identifying sensor heater provided in the urea concentration identifying chamber; and

a liquid temperature sensor provided in the urea concentration identifying chamber apart from the urea concentration identifying sensor heater at a constant interval;

the urea concentration identifying sensor heater including a heater and an identifying liquid temperature sensor provided in the vicinity of the heater, and

an identification control portion for applying a pulse voltage to the urea concentration identifying sensor heater for a predetermined time, heating the identified urea solution staying temporarily in the urea concentration identifying chamber by the heater and identifying the concentration of the urea with a voltage output difference  $V_0$  corresponding to a temperature difference between an initial temperature and a peak temperature in the identifying liquid temperature sensor, wherein the identification control portion correlates a liquid type voltage output  $V_{out}$  for the voltage output difference  $V_0$  at a measuring temperature of the identified urea solution with an output voltage for a voltage output difference at a measuring temperature for a predetermined threshold reference urea solution and thus carries out a correction, and

wherein the liquid temperature sensor is constituted to come in contact with the identified urea solution through a metallic fin.

Claim 30 (Currently Amended): An apparatus for identifying a concentration of a urea of a urea solution, comprising:

a urea concentration identifying chamber for causing an identified urea solution introduced into a urea concentration identifying apparatus body to stay temporarily;

a urea concentration identifying sensor heater provided in the urea concentration identifying chamber; and

a liquid temperature sensor provided in the urea concentration identifying chamber apart from the urea concentration identifying sensor heater at a constant interval;

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the urea concentration identifying sensor heater including a heater and an identifying liquid temperature sensor provided in the vicinity of the heater, and

an identification control portion for applying a pulse voltage to the urea concentration identifying sensor heater for a predetermined time, heating the identified urea solution staying temporarily in the urea concentration identifying chamber by the heater and identifying the concentration of the urea with a voltage output difference  $V_0$  corresponding to a temperature difference between an initial temperature and a peak temperature in the identifying liquid temperature sensor,

wherein the urea concentration identifying sensor heater is a laminated urea concentration identifying sensor heater in which a heater and an identifying liquid temperature sensor are laminated through an insulating layer, and

wherein the liquid temperature sensor is constituted to come in contact with the identified urea solution through a metallic fin.

Claim 31 (Withdrawn): The method for identifying a concentration of a urea of a urea solution according to claim 9, wherein a concentration of a urea of a urea solution is identified with the voltage output difference  $V_0$  obtained for the identified urea solution based on calibration curve data to be a correlation of a voltage output difference with a temperature for a predetermined reference urea solution which is prestored.

Claim 32 (Withdrawn): The method for identifying a concentration of a urea of a urea solution according to claim 9, wherein a liquid type voltage output  $V_{out}$  for the voltage output difference  $V_0$  at a measuring temperature of the identified urea solution is correlated with an output voltage for a voltage output difference at a measuring temperature for a predetermined threshold reference urea solution and is thus corrected.

Claim 33 (Withdrawn): The method for identifying a concentration of a urea of a urea solution according to claim 10, wherein a liquid type voltage output  $V_{out}$  for the voltage output difference  $V_0$  at a measuring temperature of the identified urea solution is correlated with an output voltage for a voltage output difference at a measuring temperature for a predetermined threshold reference urea solution and is thus corrected.

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Claim 34 (Withdrawn): The method for identifying a concentration of a urea of a urea solution according to claim 9, wherein the urea concentration identifying sensor heater is a laminated urea concentration identifying sensor heater in which a heater and an identifying liquid temperature sensor are laminated through an insulating layer.

Claim 35 (Withdrawn): The method for identifying a concentration of a urea of a urea solution according to claim 10, wherein the urea concentration identifying sensor heater is a laminated urea concentration identifying sensor heater in which a heater and an identifying liquid temperature sensor are laminated through an insulating layer.

Claim 36 (Withdrawn): The method for identifying a concentration of a urea of a urea solution according to claim 11, wherein the urea concentration identifying sensor heater is a laminated urea concentration identifying sensor heater in which a heater and an identifying liquid temperature sensor are laminated through an insulating layer.

Claim 37 (Withdrawn): The method for identifying a concentration of a urea of a urea solution according to claim 10, wherein the heater and the identifying liquid temperature sensor in the urea concentration identifying sensor heater are constituted to come in contact with the identified urea solution through a metallic fin, respectively.

Claim 38 (Withdrawn): The method for identifying a concentration of a urea of a urea solution according to claim 11, wherein the heater and the identifying liquid temperature sensor in the urea concentration identifying sensor heater are constituted to come in contact with the identified urea solution through a metallic fin, respectively.

Claim 39 (Withdrawn): The method for identifying a concentration of a urea of a urea solution according to claim 10, wherein the liquid temperature sensor is constituted to come in contact with the identified urea solution through the metallic fin.

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Claim 40 (Withdrawn): The method for identifying a concentration of a urea of a urea solution according to claim 11, wherein the liquid temperature sensor is constituted to come in contact with the identified urea solution through the metallic fin.

Claim 41 (Currently Amended): An apparatus for identifying a concentration of a urea of a urea solution, comprising:

a urea concentration identifying chamber for causing an identified urea solution introduced into a urea concentration identifying apparatus body to stay temporarily when identifying a concentration of a urea;

a urea concentration identifying sensor heater provided in the urea concentration identifying chamber; and

an identification control portion for applying a pulse voltage to the urea concentration identifying sensor heater for a predetermined time, for heating the identified urea solution staying temporarily in the urea concentration identifying chamber by the urea concentration identifying sensor heater, and for identifying the concentration of the urea with a voltage output difference V0 corresponding to a temperature difference between an initial temperature and a peak temperature in the urea concentration identifying sensor heater,

wherein the urea concentration identifying sensor heater is constituted to come in contact with the identified urea solution through a fin.

Claim 42 (Previously Presented): The apparatus for identifying a concentration of a urea of a urea solution according to claim 41, wherein the voltage output difference V0 is equal to a voltage difference between an average initial voltage V1 obtained by sampling an initial voltage before application of the pulse voltage at a predetermined number of times and an average peak voltage V2 obtained by sampling a peak voltage after the application of the pulse voltage at a predetermined number of times, that is,

$$V0 = V2 - V1.$$

Claim 43 (Previously Presented): The apparatus for identifying a concentration of a urea of a urea solution according to claim 41, wherein the identification control portion identifies a concentration of a urea of a urea solution with the voltage output difference V0

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obtained for the identified urea solution based on calibration curve data to be a correlation of a voltage output difference with a temperature for a predetermined reference urea solution prestored in the identification control portion.

Claim 44 (Previously Presented): The apparatus for identifying a concentration of a urea of a urea solution according to claim 41, wherein the identification control portion correlates a liquid type voltage output  $V_{out}$  for the voltage output difference  $V_0$  at a measuring temperature of the identified urea solution with an output voltage for a voltage output difference at a measuring temperature for a predetermined threshold reference urea solution and thus carries out a correction.

Claim 45 (Previously Presented): The apparatus for identifying a concentration of a urea of a urea solution according to claim 41, wherein the urea concentration identifying sensor heater is a laminated urea concentration identifying sensor heater in which a heater and an identifying liquid temperature sensor are laminated through an insulating layer.

Claim 46 (Currently Amended): An apparatus for identifying a concentration of a urea of a urea solution, comprising:

a urea concentration identifying chamber for causing an identified urea solution introduced into a urea concentration identifying apparatus body to stay temporarily when identifying a concentration of a urea;

a urea concentration identifying sensor heater provided in the urea concentration identifying chamber; and

an identification control portion for applying a pulse voltage to the urea concentration identifying sensor heater for a predetermined time, for heating the identified urea solution staying temporarily in the urea concentration identifying chamber by the urea concentration identifying sensor heater, and for identifying the concentration of the urea with a voltage output difference  $V_0$  corresponding to a temperature difference between an initial temperature and a peak temperature in the urea concentration identifying sensor heater,



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wherein the heater and the identifying liquid temperature sensor in the urea concentration identifying sensor heater are constituted to come in contact with the identified urea solution through a ~~metallie~~ fin, respectively.

Claim 47 (Currently Amended): An apparatus for identifying a concentration of a urea of a urea solution, comprising:

a urea concentration identifying chamber for causing an identified urea solution introduced into a urea concentration identifying apparatus body to stay temporarily when identifying a concentration of a urea;

a urea concentration identifying sensor heater provided in the urea concentration identifying chamber; and

an identification control portion for applying a pulse voltage to the urea concentration identifying sensor heater for a predetermined time, for heating the identified urea solution staying temporarily in the urea concentration identifying chamber by the urea concentration identifying sensor heater, and for identifying the concentration of the urea with a voltage output difference  $V_0$  corresponding to a temperature difference between an initial temperature and a peak temperature in the urea concentration identifying sensor heater,

wherein the liquid temperature sensor is constituted to come in contact with the identified urea solution through a ~~metallie~~ fin.

Claim 48 (New): An apparatus for identifying a concentration of a urea of a urea solution, comprising:

a urea concentration identifying chamber for causing an identified urea solution introduced into a urea concentration identifying apparatus body to stay temporarily when identifying a concentration of a urea;

a urea concentration identifying sensor heater provided in the urea concentration identifying chamber; and

an identification control portion for applying a pulse voltage to the urea concentration identifying sensor heater for a predetermined time, for heating the identified urea solution staying temporarily in the urea concentration identifying chamber by the urea concentration identifying sensor heater, and for identifying the concentration of the urea with a

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voltage output difference VO corresponding to a temperature difference between an initial temperature and a peak temperature in the urea concentration identifying sensor heater,

wherein the urea concentration identifying sensor heater is constituted to come in contact with the identified urea solution through a fin.